

# *Optimal Defaults for Nutrition and Physical Activity:*

## *Guidelines for Caregivers*



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# ***Optimal Defaults for Nutrition and Physical Activity: Guidelines for Caregivers***

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# Section 1: Introduction

Poor nutrition during any stage of a child's development can have lasting consequences on their cognitive development, resulting in decreased learning ability, poor concentration, and impaired school performance. It also leads to increased obesity and health care costs.

## Common Nutrition Concerns

All children of both sexes and in all income and racial/ethnic groups are at risk for dietary excesses and deficiencies. Dietary excesses of total fat, saturated fat, cholesterol, sodium, and sugar commonly occur. Most children do not meet dietary recommendations for fruits, vegetables, and calcium-rich foods.<sup>1</sup> Other concerns include: consumption of sugar-sweetened beverages (SSBs), iron-deficiency anemia, inadequate calcium intake, unsafe weight-loss methods, eating disorders and obesity.

## Factors that Contribute to Poor Eating Habits

- Easily available, low-cost, high-fat and/or high-sugar, low-nutrient foods, such as processed foods, french fries, candy, chips, or soda
- Limited access to healthy foods that appeal to children at home and when away from home
- Perception that healthy, low-in-fat, unprocessed, nutrient-dense foods (high in nutrients compared with their caloric content) are inconvenient and lack taste. Some examples of healthy snacks include fresh fruit and vegetables, whole wheat bread, and lowfat yogurt
- Lack of knowledge regarding appropriate nutrition and the health impact of poor nutrition
- Poor caregiver role modeling
- Obesogenic environments: for example, processed food instead of fruits and vegetables in place of residence, accompanied by inadequate staff knowledge and training
- Lack of age appropriate meal planning and portion control
- Lack of food handling, shopping, and preparation education, resulting in inadequate caregiver skills
- Increased incidence of disordered eating due to emotional eating behaviors and past traumas
- Tobacco and alcohol use, pregnancy, disabilities, or chronic health conditions

## Consequences of Poor Eating Habits

Poor or inappropriate dietary habits increase the risk and/or incidence of chronic disease among children. Of great concern is the increasing rate of obesity and obesity-related health risks, such as diabetes and cardiovascular disease. The prevalence of type 2 diabetes among adolescents has increased and is closely linked to overweight and obesity.<sup>2</sup>

Inadequate iron intake increases the incidence of iron-deficiency anemia, especially among those adolescents at highest risk, such as pregnant adolescents, vegetarians, and competitive athletes. Vegetarianism is popular among some adolescents as they experiment or rebel and individuate. Without appropriate supplementation, these adolescents may be at risk for nutrient deficiencies (see the *Vegetarian Youth* section).

A typical adolescent diet does not include adequate amounts of fruit, vegetables, and grains.<sup>1</sup> These foods are a significant source of vitamins and minerals such as folate. Folate deficiency is a concern for all girls physically capable of becoming pregnant.

Consumption of SSBs (e.g. soda, flavored milk, vitamin water, sports drinks, energy drinks, Kool-Aid etc.) among children has risen dramatically and continues to replace milk and water.<sup>3</sup> Health risks

associated with this increased intake of sugar-sweetened beverages include excess sugar and caloric intake, which contribute to overweight, obesity and dental caries.

According to the American Academy of Pediatrics (AAP), most children and adolescents do not need to replace their electrolytes by drinking sports drinks. Their electrolyte needs are normally met by consuming a healthy and balanced diet. Water should be the beverage of choice. However, unflavored nonfat or lowfat milk can also be consumed after exercise.<sup>4</sup> Due to their health risks, the AAP recommends that energy drinks should never be consumed by children and adolescents.

One disturbing result of drinking SSBs is the decrease in milk consumption, resulting in insufficient calcium intake. Adequate calcium intake during adolescence is essential for peak bone mass, yet evidence suggests that most female adolescents do not meet the recommended daily intake.<sup>5</sup> Drinking soda may also interfere with calcium absorption due to high content of phosphorus in soda.

# Section 2: Obesity Overview

## The Growing Problem of Obesity Among Children & Teens

The problem of childhood obesity in the United States has grown considerably in recent years. Between 16 and 33 percent of children and adolescents are obese. Obesity is among the easiest medical conditions to recognize but most difficult to treat. Unhealthy weight gain due to poor diet and lack of exercise is responsible for over 300,000 deaths each year. The annual cost to society for obesity is estimated at nearly \$100 billion. Overweight children are much more likely to become overweight adults unless they adopt and maintain healthier patterns of eating and exercise. Health-care costs for morbidly obese people are nearly double what patients considered to be of normal weight pay, according to a recent University of Cincinnati study.

### **What is obesity?**

A few extra pounds does not suggest obesity. However they may indicate a tendency to gain weight easily and a need for changes in diet and/or exercise. Generally, a child is not considered obese until the weight is at least 10 percent higher than what is recommended for their height and body type. Obesity most commonly begins between the ages of 5 and 6, or during adolescence. Studies have shown that a child who is obese between the ages of 10 and 13 has an 80 percent chance of becoming an obese adult.

### **What causes obesity?**

The causes of obesity are complex and include genetic, biological, behavioral and cultural factors. Obesity occurs when a person eats more calories than the body burns up. If one parent is obese, there is a 50 percent chance that their children will also be obese. However, when both parents are obese, their children have an 80 percent chance of being obese. Although certain medical disorders can cause obesity, less than 1 percent of all obesity is caused by physical problems. Obesity in childhood and adolescence can be related to:

- poor eating habits
- overeating or bingeing
- lack of exercise (i.e., couch potato kids)
- family history of obesity
- medical illnesses (endocrine, neurological problems)
- medications (steroids, some psychiatric medications)
- stressful life events or changes (separations, divorce, moves, deaths, abuse)
- family and peer problems
- low self-esteem
- depression or other emotional problems

The cause of this epidemic is almost entirely behavioral: high-calorie diets and insufficient exercise.

## **What are risks and complications of obesity?**

There are many risks and complications with obesity. Physical consequences include:

- Type 2 diabetes mellitus (formerly adult onset diabetes)
- Hypertension and predisposition for cardiac disease
- Sleep apnea
- Asthma
- Gallbladder disease
- Kidney disease
- Pancreatitis
- Eye diseases
- Nerve damage
- Various gastrointestinal disorders
- Various skeletal and orthopedic problems
- 80% increase in incidence of obesity in adulthood
- Obesity in adulthood likely to be more severe with earlier onset of co-morbidities

Child and adolescent obesity is also associated with increased risk of emotional problems. Teens with weight problems tend to have much lower self-esteem and be less popular with their peers.

Depression, anxiety, and obsessive compulsive disorder can also occur.

## **How can obesity be managed and treated?**

Obese children need a thorough medical evaluation by a pediatrician to consider the possibility of a physical cause. In the absence of a physical disorder, the only way to lose weight is to reduce the number of calories being eaten and to increase the level of physical activity. Lasting weight loss can only occur when there is self-motivation. Since obesity often affects more than one family member, making healthy eating and regular exercise a family activity can improve the chances of successful weight control for the child or adolescent.

## **Weight Loss Programs VS Bariatric Surgery**

As organizations and parents learn more about the direct and indirect effects of obesity and overweight on children and teens and encounter growing frustration attempting to control children's obesity, they are increasingly seeking professional treatment for weight loss. Many parents are now inquiring about bariatric surgery ("stomach stapling") for their children - a \$20,000 - \$40,000 procedure. This procedure can often result in dramatic weight loss if an appropriate after care regimen is pursued. There are also a number of weight loss drugs that have been approved for adults, and are being reviewed as appropriate for children.

However, there is general agreement in the medical community that invasive and risky surgical or drug treatments will never be considered the standard of care for weight loss in children and teens. Instead, because the epidemic of overweight and obesity is behavioral, pediatricians and primary care physicians prefer to refer children to weight loss programs that change behavior over an extended period of time and that include the family or caregivers in the weight loss treatment program.

Hospital or clinic-based outpatient weight loss programs for children and families have demonstrated some effectiveness and some hospitals have waiting lists. But because these weight loss programs are unable to control the child and family environment, behavioral change is often slow and not permanent.

At present, the only weight loss programs that are successful are those that focus on changing the environment - the best hope for long-term behavioral change

Good weight loss programs direct their entire programs at changing behavior over the long term. Sports, activities, educational and clinical programs are all part of an overall clinical design to teach new behaviors and habits. Cognitive behavioral therapy is likely a core element of the weight loss clinical program. And because it is unlikely that a child's behavior will change completely over the course of a couple of weeks, good weight loss programs provide follow-up or after-care programs, checking in with residents and their caregivers. Exceptional weight loss programs may try to involve families towards the end of the weight loss program experience in an attempt to change the environment into which the child is returning. Research shows that behavior change takes time, 6 months or longer - a length of time that is likely to allow for substantial behavioral change.

In Summary:

- Longer treatments produce greater sustainable weight losses in the long run.
- Changing a person's environment has a large impact on their health outcomes.
- Longer and more effective multi-disciplinary interventions achieve better outcomes via increasing mastery of weight control knowledge, self-regulatory skills, and motivation.

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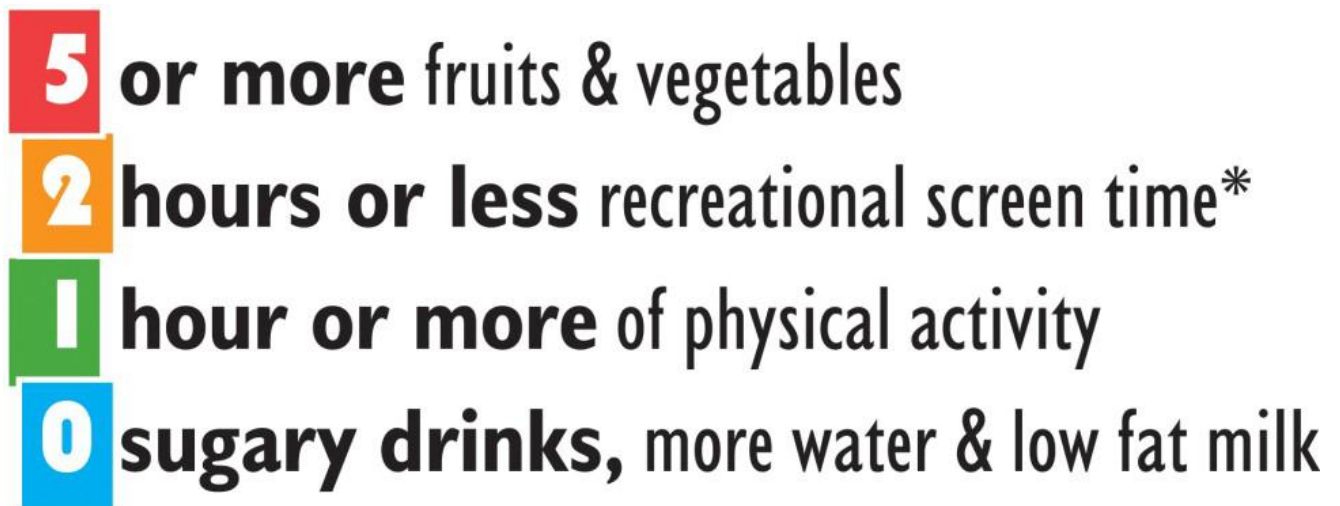
## Section 3: “5 2 1 0” – A Summary of the Guidelines

In its simplest form, the nutrition guidelines recommended that every child experiences the following as part of their daily life:

- “5” At least 5 servings of fruits and vegetables (at least 3 of these should be vegetables)
- “2” No more than 2 hours of screen time per day
- “1” At least one hour of physical activity per day
- “0” Zero sweetened beverages. All beverages should be zero calories, except low fat or fat-free unflavored milk with meals.

“5 2 1 0” comes from the Let’s Go program : “Let’s Go!, a program of The Kids CO-OP at the Barbara Bush Children’s Hospital at Maine Medical Center, uses a multi-sector approach to reach youth and families where they live, study, work, and play to reinforce the importance of healthy eating and active living. The program is based on the premise that if families (or communities) are exposed to the same health promotion messages through several settings, and if those settings have policies and environments that support healthy choices, they will be more likely to adopt or maintain the behaviors in their daily lives.

The Let’s Go! program interventions center on the use of the common message of “5-2-1-0”. These behaviors are supported by science and endorsed as recommendations by medical professionals:



\*Keep TV/Computer out of the bedroom. No screen time under the age of 2.

## **What is the science behind the 5210 message?**

There is a scientific rationale supporting each component of the 5210 message. It has been used in doctors' offices in Maine since 2009 and has been used in school settings since 2010. The 5210 message is an easy way to begin an open discussion about the ways to increase physical activity and healthy eating.

### **5 or more fruits & vegetables**

Scientific Rationale: A diet rich in fruits and vegetables provides vitamins and minerals, which are important for supporting growth and development, and for optimal immune function in children. High daily intakes of fruits and vegetables among adults are associated with lower rates of chronic diseases such as heart disease, stroke, high blood pressure, diabetes, and possibly, some types of cancers. Emerging science suggests fruit and vegetable consumption may help prevent weight gain, and when total calories are controlled may be an important aid to achieving and sustaining weight loss.

### **2 hours or less of recreational screen time**

Scientific Rationale: According to the American Academy of Pediatrics (AAP,) the average child watches an average of 5–6 hours of television a day. Watching too much television is associated with an increased prevalence of overweight and obesity, lower reading scores, and attention problems. The AAP therefore recommends that children under age two shouldn't watch any television. In addition, the AAP recommends no TV or computer in the room in which the child sleeps, and no more than 2 hours of screen time a day.

### **1 hour or more of physical activity**

Scientific Rationale: Regular physical activity is essential for weight maintenance and prevention of chronic diseases such as heart disease, diabetes, colon cancer, and osteoporosis. While most school age children are quite active, physical activity sharply declines during adolescence. Children who are raised in communities with active lifestyles are more likely to stay active as adults than children raised in communities with sedentary lifestyles .

### **0 sugary drinks, more water & low fat milk**

Scientific Rationale: Sugar-sweetened beverage consumption has increased dramatically over the past 20 years; high intake among children is associated with overweight and obesity, displacement of milk consumption, and dental cavities. It is recommended that children 1–6 years old consume no more than 4–6 ounces of juice per day and youth 7–18 years old consume no more than 8–12 ounces. Whole milk is the single largest source of saturated fat in children's diets. Switching to unflavored low or non-fat milk products significantly reduces dietary saturated and total fat, as well as total calories.

## Implementing 5 2 1 0

Implementing this new culture in a residential facility takes time as we create an environment that is conducive to new habits and that does not sabotage good intentions. The best place to start is with the staff who interact with the children as healthy habits are contagious. Given that staff come from diverse educational and cultural backgrounds, they need skills training in implementing these guidelines.

### Create an Environment for Health and Wellness

- Encourage staff not to bring sodas, juice and junk food to work. If they do bring these to work, then these items should not be consumed in front of the children in their care.
- Staff who take children out into the community should not use junk food or fast food as a reward. If they must eat a meal at a convenient place in the community, consider low fat options at Subway, and avoid places like Burger King who offer very few, if any, healthy choices.
- Identify a list of non-food rewards that meet the needs of residents and use it to encourage and reinforce positive behaviors.
- Be on the lookout for emotional eating: it can be a sign of depression, boredom, anger and a host of other issues.
- Positive framing: Let the children hear you talking about healthy foods and exercise in a positive manner.
- Plan meals in advance in accordance with the nutrition recommendations (See Section 4).
- Use smaller plates, bowls and cups to control portion sizes.
- If residents routinely gain weight then consider training the staff on how to prevent this.
- Every child should be screened for nutrition risks at least annually, or more frequently if they experience major life changes (See Section 5).
- Children who are at risk for nutrition problems should be referred to a Registered Dietitian.

•

“5”

- Use fruits and vegetables for snacks: buy either seasonal fresh produce or frozen, and have them ready to eat.
- Make half the plate fruits and vegetables.
- Implement “Meatless Mondays”: one day a week where the protein is plant based.

•

“2”

- Serve meals at a table with everyone eating together with the television turned off.
- Turning off the television and providing opportunities for non-screen activities will naturally increase the resident’s level of physical activity. Non-screen activities can also be used as a tool for teamwork and recreation therapy.
- Institute a “no eating with the screen on” rule to avoid mindless eating that contributes to obesity.

•

“1”

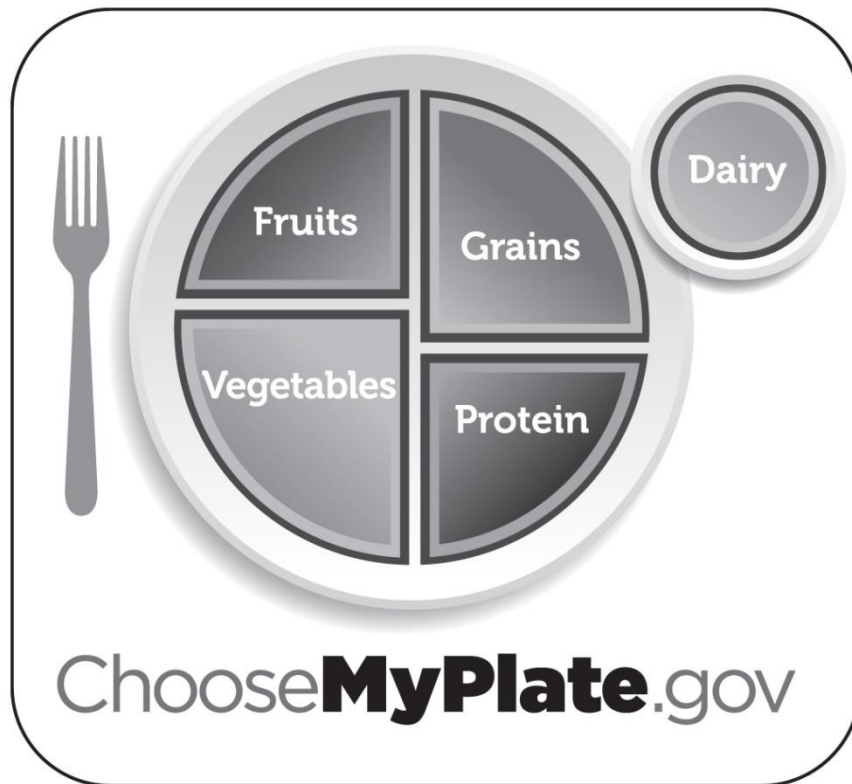
- Role modeling is key: let the children catch you enjoying exercise. Encourage staff to wear pedometers and to aim for 10,000 steps per day. This is a great way to introduce exercise in a safe and non-threatening way.
- Make one hour of physical activity part of every child’s daily routine - not a punishment or extra chore that needs to be done.
- Include physical activity plans in every child’s care plan, and document and track actual physical activity.

•

“0”

- Eliminate all juices, sodas and flavored milk. All beverages should be zero calories, unless it is unflavored low-fat or fat-free milk with meals. Zero calorie sweeteners and flavors, such as Mio and Crystal Lite can be used in moderation for extra flavor.
- Encourage water and zero calorie seltzer water.

## Section 4: Nutrition Recommendations



### MyPlate

The MyPlate symbol and website, [www.choosemyplate.gov](http://www.choosemyplate.gov), were launched by the United States Department of Agriculture (USDA) in 2011. MyPlate serves as a reminder to eat healthfully and illustrates the five food groups using a familiar mealtime visual, a place setting. MyPlate encourages individuals to make healthier meal choices by building their plate like in the graphic above.

MyPlate displays food proportions, not quantities. The recommended quantity of each food group varies from person to person based on age, sex, and other factors. Each of the food groups depicted provides some, but not all of the nutrients that an individual needs. Foods in one group cannot replace foods from another group.

**Every child should have a personalized nutrition plan, updated annually, as part of their care plan.**

**Create an individualized plan for each client by visiting**

**<http://www.choosemyplate.gov/myplate/index.aspx> and enter their age, sex, weight, height and activity level.**

Although using the online tool is most convenient, food pattern tables can also be used. Some tables are included in Section 6: Using the Dietary Tables. Another helpful tool is the **Stop Light Food Guide** (See Appendix), which shows serving sizes and appropriate choices.

Resources that are available on the ChooseMyPlate site include:

- Daily food plans tailored to individuals of varying ages, beginning at age two
- A tool to access food information (food groups, calories and comparisons)
- A tracker that provides feedback on food and physical activity levels
- Planners that help in reaching personal goals

## **Energy**

Carbohydrates, protein and fat provide energy in the form of calories. Carbohydrates and protein each contain four calories per gram; fat contains nine calories per gram.

Caloric needs vary by age and physical activity level. Excessive energy intake leads to weight gain and can cause significant health problems.

Of the total calories needed, about 60% is needed for the body's basic energy needs (basal metabolism). Some examples include tissue growth and repair as well as heart and lung function. Calorie needs depend on factors such as age, height, weight, and physical activity level

## **Carbohydrates**

Carbohydrates are an essential part of a healthy diet. They should not be eliminated as part of a weight loss diet, such as the popular “no-carb diets.” The best sources of carbohydrates are the “complex carbs”, which include whole grains, fruits, vegetables, and beans. These are also excellent sources of vitamins, minerals, and fiber. “Simple carbs, which include juice, soda, candy and many snack foods, provide a lot of calories but very few nutrients and should be avoided as much as possible

## **Protein**

Protein needs depend on the individual's rate of growth. Most children meet or exceed recommended levels. Children at risk for protein deficiency include strict vegetarians and those using extreme measures to restrict their food intake to lose weight. The best sources of protein are lean meats, fish, low fat cottage cheese, nuts, seeds, soy products and beans. Unhealthy proteins are those that come “bundled” with a lot of saturated fats, such as bacon, hot dogs, pepperoni, bologna, salami, sausages and hamburger.

Considering the size and complicated nature of protein, it takes longer to digest foods or meals that include protein. Therefore, having protein at every meal will help you to feel full longer. Although it is recommended to have protein at each meal, it is especially important to include a protein source at breakfast. By eating a complete breakfast that includes a protein serving, you will feel more satisfied throughout the day and will be less likely to over-eat during other meals (which is essential for successful weight loss).

### **Where is it found?**

There are two main sources of protein, animal and vegetable. Animal proteins are considered to be high quality proteins because they include all amino acids that your body needs. Animal proteins include meat, poultry, fish, eggs and dairy. On the other hand, vegetable proteins are incomplete proteins, although they will still help to satisfy hunger they do not include every amino acid. For vegetarians or vegans, it is important to choose different vegetable or plant sources of protein to meet needs, such as grains, beans, nuts, legumes or tofu.

## **Fat**

Fat is a necessary nutrient but most people exceed recommended levels for fat intake.<sup>5</sup> Fat from all sources should be limited to 25% - 35% of all calories consumed that day. Most fats given to children

should be unsaturated fats. Examples are fish ,avocados, nuts,seeds and canola or olive oils.

Fat is found naturally in foods or can be added during processing or during the cooking process. A gram of fat has 9 calories. There are different types of fats; some are more healthful than others.

- Saturated fat (animal flesh, butter, margarine, processed/hydrogenated oils, tropical oils, and fried foods)
- Polyunsaturated fat (vegetable oils—sunflower, safflower, corn, and flaxseed oils)
- Monounsaturated fats (vegetable oils—olive, peanut, canola, and many nut oils)
- Omega-3 fatty acids (highly polyunsaturated—from seafood such as tuna, mackerel, and salmon, as well as nuts, soy, canola, and flaxseed oils. *These are the healthiest fats.*)
- Omega-6 fatty acids (highly polyunsaturated—vegetable oils such as soybean, corn, and safflower oils)

### **Why is it important?**

Fat is needed in the body to protect the major organs, for proper hormone functioning, preserving body heat and supplying the fat-soluble vitamins (A, D, E and K). Also, fat takes time to digest which leads to feeling full longer after a meal that is high in fat. When trying to lose weight, it is important to limit fats because of how high in calories they can be, however it is not healthy to eliminate fats COMPLETELY. They are important to keep skin healthy, heal properly, maintain mental function and prevent hair loss.

### **Which fats are the ‘right’ fats?**

*Saturated fats* have been shown to increase the ‘bad’ cholesterol (LDL) and increase total cholesterol levels. These should be avoided, and are solid at room temperature and found in butter, high fat dairy products, animal fat/skin and products that contain partially hydrogenated vegetable oil. Leaner cuts of beef (such as tenderloin), poultry and pork tenderloin will be lower in saturated fats compared to fatty meats, bacon, or sausage. Similarly, *trans fats* are created during processing and have been shown to increase LDL and decrease the ‘good’ cholesterol (HDL). Trans fats should be avoided, and are found in solid products such as margarine, shortening, fried foods and some processed snack foods.

*Unsaturated fats* have opposite characteristics of saturated fats. They are liquid at room temperature. Unsaturated fats (monounsaturated and polyunsaturated) have been shown to decrease LDL cholesterol and somewhat increase HDL cholesterol. They can be found in olive and canola oils, avocados, nuts and fish. Omega-6 and Omega-3 are polyunsaturated fats. Omega-3 fats that are found in shellfish and fish (mackerel, salmon, tuna, herring) contain the fatty acids EPA and DHA, which have been linked to heart disease prevention, and are anti-inflammatory.

## **Vitamins and Minerals**

Vitamins and minerals have a role in most or all metabolic processes that take place in the body. The demands of growth and development, coupled with poor eating habits, place many children at risk for vitamin and mineral deficiencies, especially calcium and vitamin D. Calcium requirements are higher for adolescents.

### **Vitamin D**

This vitamin is found in foods such as fortified milk, fish, eggs, and cod liver oil.

Sunshine also contributes to vitamin D intake. Vitamin D is important for the body to build strong and healthy bones, and for developing a strong immune system.<sup>6</sup> For people aged 1-18 years of age, the Recommended Dietary Allowance is 600 IU of vitamin D per day, regardless of sex. If this recommendation is not met through foods and fortified milk, taking a vitamin D supplement may be recommended by their health care provider. Adolescents, especially those pregnant and breastfeeding should check with their primary healthcare provider before taking a vitamin supplement.

Groups at risks for Vitamin D deficiency include those with chronic diseases, obesity, or who

are dark skinned. Certain medications, such as some seizure medications, can also cause a Vitamin D deficiency.

Adolescents who may become pregnant or are pregnant need to consume folic acid daily to help prevent birth defects. Adolescents who are pregnant have increased needs for certain vitamins and minerals. They should talk to their health care provider about taking a prenatal vitamin.

## Nutrition Supplements

Dietary supplements may supply some vitamins and minerals, but they cannot provide all the nutritional components that food offers for good health. No supplement can fix an ongoing pattern of poor food choices.

Some adolescents may be intrigued by over-the-counter nutrition supplements such as vitamins, minerals, herbs and protein powders. The Food and Drug Administration (FDA) does not regulate the purity or dosages of most of these products, their claims are seldom proven, and overuse may be dangerous.

Expensive nutrition products — such as energy or power bars and shakes — are popular, but their effects on performance have not been widely studied and these may cause harm to adolescents. Creatine, a popular supplement among athletes, has not been evaluated for its effects on the growth, development, or health of adolescents.

## Fiber

Fiber is the non-digestible edible material found in fruits, vegetables, nuts, seeds, beans, and some grains, such as whole-grain cereal or oatmeal. Fiber helps with satiety and digestion and may reduce cholesterol levels. See Table AN-1 for recommended daily values. Average fiber intake for female adolescents is approximately 13 grams per day,<sup>10</sup> which is well below recommended intakes. Fiber intake can be increased by consuming more fruits, vegetables, beans and whole grains.

Table AN-1 Adequate Intake for Fiber (grams per day)		
Age	Females	Males
1-3	19	19
4-8	25	25
9-13	26	31
14-18	26	38
19 - 30	25	38
Source: Institute of Medicine, Food and Nutrition Board, 2005 <sup>9</sup>		

## Water

Water is involved in almost every life-sustaining body process. It carries nutrients and oxygen to body cells, takes waste products away, and regulates body temperature. It provides no energy and thus has no calories.

The body loses water through urination, sweat, breathing, and feces. Drinking water and other

beverages is the best way to replace body water. Solid foods, especially fruits and vegetables, also provide water, however this amount is difficult to measure.

When children are physically active for less than three hours in mild weather conditions, only water is needed for re-hydration. However, if physical activity lasts longer than three hours and the weather is hot and humid, athletes may need to replace electrolytes, such as sodium, potassium, and chloride that help regulate the body's balance of fluids. When children participate in prolonged physical activity, they should drink water; commercial sports drinks are rarely necessary. Salt pills should not be used, as they can be dangerous.

Providing that the tap water in your area meets state guidelines for quality, it is not necessary to purchase bottled water for drinking. A water filter may improve the taste and smell of the tap water.

## **Fruits and Vegetables**

**Half the plate should consist of fruits and non-starchy vegetables.** The starchy vegetables belong in the "grain" portion of the plate, and these include peas, corn, potatoes, sweet potatoes, pumpkin, butternut squash and beans.

Getting enough fruits and vegetables during the day is important for more than one reason. Not only are they an excellent source of vitamins and minerals, but most are an excellent way to increase fiber in your diet. Fruits and vegetables are also high in antioxidants; research has been showing that increasing antioxidants in your diet can help fight infection, cancer and chronic diseases.

Not only are these foods important for overall health and well-being, but also they are a tool to use in the weight loss process. Filling up on vegetables and fruit will replace other calories coming from choices that slow weight loss, such as snack foods and sweets. Eating enough servings with high water and fiber content will keep you feeling full throughout the day to prevent overeating. Although eating ANY fruits and vegetables at all will be beneficial, to get the most out of these food groups include a variety; dark leafy greens, citrus fruit, yellow and orange fruits and vegetables.

# Encourage Kids to Eat More Fruits & Veggies

Eating fruits and vegetables is part of a healthy diet\* for both children and adults. Finding creative ways to encourage fruits and vegetables in your child's diet can be fun for the entire family.

Taking the time to introduce a variety of fruits and vegetables to kids can help develop a lifetime of healthy habits.



## 10 Ways to Help Kids Eat More Fruits & Veggies

1. Keep a bowl of fresh fruits on the counter.  
Refrigerate cut up fruits and vegetables in small bags for easy snacks on the run.
2. Serve fruits and vegetables at every meal. Add grated or cut vegetables into entrees, side dishes, and soups. Top off cereal with fruits or add frozen fruits to smoothies.
3. Set a good example. Snack on fruit and order low-sodium, low-fat salads, soups, or vegetable sides when at restaurants.
4. Pack the refrigerator, freezer and cupboard with pre-cut, frozen and canned vegetables so that it is easier for you to prepare meals and snacks that include vegetables.
5. Challenge family members to reach their daily fruits and vegetable goal. Reward the winner with a prize of his or her choice.
6. Ask that fruits and vegetables be offered at school functions, after school programs, and in vending machines.
7. Let children choose which fruits and vegetables to serve and how to incorporate them into their favorite meals.
8. Make fruits and vegetables fun for younger children. Try dressing up sandwiches with faces and smiles made from fruits and vegetables.
9. Keep trying. For some foods, it may take multiple times before a child acquires a taste for it.
10. Encourage others to offer vegetables and fruits to the children in your care.



## Important Elements—Smell, Texture, and Color

- ☐ Kids are turned off to trying new foods if the smell, flavor, or color is unappealing. Try serving fruits or vegetables that are served raw.
- ☐ Try feeding different textures of fruits and vegetables. Some children prefer smooth food, or lumpy, or crisp foods, but others like soft.
- ☐ Offer new fruits and vegetables in combination with old favorites. Add vegetables to whole grain pasta dish or pizza.



# Eating Behaviors

Children spend a good deal of time away from their home environment and many consume fast foods, which are convenient, but are often high in calories and fat. It is common for children, especially adolescents, to skip meals and snack frequently. Some factors influencing food choices are:

- Convenient availability of health snacks
- Preparation time
- Environment, including plate and utensil sizes
- Peers
- Caregiver role modeling
- Multiple caregivers
- Reward systems
- Familiarity / Cultural norms
- Satiety
- Portion Control
- Taste
- Health
- Emotional status
- Boredom

All of these factors can be influenced to improve eating behaviors and health outcomes.

## Meals Times

Meals should be served at consistent times and, in order to control portions and prevent obesity, meals should NOT be served “family style”. Servers should use measuring cups or measuring spoons to ensure appropriate portion sizes, especially for starchy vegetables and grains. Eating together, at a slow pace, promotes good long-term meal habits.

Prepare extra servings of non-starchy vegetables for second helpings.

## Plate Size

Research done at Cornell University clearly demonstrates that using smaller plates, cups and serving utensils has a positive impact on controlling portion sizes, and can reduce caloric intake by as much as 20% without anyone noticing.

Recommended dinner plate size is 7.5 inches in diameter.

Recommended cereal bowl size: 2 cups

Recommended cup size is 8 ounces.

## Portion Control

Using the Plate Method described above is very effective for portion control and prevention of obesity.

Portions should be individualized, based on gender, age and activity level. **Create an individualized plan for each client by visiting <http://www.choosemyplate.gov/myplate/index.aspx> and enter their age, sex, weight, height and activity level.**, or See Appendix for charts.

The Stop Light Guide is also a helpful tool (also included in the Appendix).

## Snacks

Children who are active and growing and may need a snack between meals (about every 3-4 hours), if they get hungry.<sup>1</sup> Discourage them from eating snacks before meals and eating when they are not hungry.

Snacks are intended to stave off hunger and sustain energy levels until the next meal. They should be small and are typically 100 to 200 calories, depending on the person's age and activity level. They should be nutritious and ideally include some fiber and protein, which help satiety. Here are some examples:

**Some Preparation Required:**

- **Veggies & Dip:** baby carrots, cucumber slices, red pepper slices, chopped broccoli, cherry tomatoes, or celery sticks served with hummus, low fat salad dressing, salsa, or other low fat dip
- **Vegetable Sticks with Spread:** celery or carrot sticks with 2 tablespoons peanut butter or hummus
- **Snack Kabobs:** veggie or fruit chunks skewered onto thin pretzel sticks
- **Sweet Potato Fries:** baked sweet potato wedges, tossed lightly w/olive oil and salt
- **Low Fat Cottage Cheese or Yogurt with Fruit and/or Low Fat Granola:** try using fresh grapes, berries, or canned peaches
- **Apple Treats:** sprinkle apple chunks with cinnamon and/or raisins or granola, then mix in 1 tablespoon peanut or almond butter
- **Homemade Popsicles:** made with low fat yogurt
- **Chips & Salsa:** use whole grain baked pita chips or baked tortilla chips. Also try chips with low fat bean dip
- **Taco Roll-up:** small whole wheat tortilla rolled w/low fat cheese, beans & salsa
- **Turkey Roll-up:** lean turkey slice rolled up with low fat cheese
- **Mini Pizzas:** toast whole wheat pita bread or half of a whole wheat English muffin w/tomato sauce, low-fat cheese, and chopped vegetables
- **Mini Whole Wheat Bagel with Spread:** try 1 tablespoon light cream cheese, peanut butter, or hummus
- **Mini Sandwiches:** use 1 slice whole wheat bread, pita bread, or several whole grain crackers. Fill or top with: peanut butter & jelly, low fat cheese & cucumber slices, or tuna salad made with low fat mayonnaise

**No Prep Snacks:**

- **Whole Fruit:** grapes, apples, bananas, etc.
- **Fruit Salad:** 1/2 cup store-bought, fresh fruit, unsweetened canned fruit, or snack cup
- **Frozen Fruit:** 1/2 cup berries, etc.
- **Dried Fruit:** 1/3 cup
- **Apple Sauce:** 1 snack cup (unsweetened)
- **Nuts:** 1/3 cup of nuts such as almonds, peanuts, cashews, or mixed nuts
- **Cheese:** low fat string cheese, or 2 slices low fat cheese (like Cabot Creamery)
- **Yogurt:** 1 squeezable low fat yogurt (like Stonyfield Farm, not "GoGurt"), or 1 low fat yogurt (6 oz.)
- **Pudding:** 1 nonfat or low fat snack cup
- **Granola/Fruit Bar:** 1 low fat, whole grain bar
- **Cereal:** 1 cup whole grain cereal (like Cheerios or Multigrain Chex)
- **Trail Mix:** 1/3 cup made with nuts, seeds, low fat granola, and dried fruit
- **Pretzels:** about 20 tiny twists
- **Popcorn:** 2 cups "light" microwave pop-corn (without butter)
- **Fruit Smoothies:** store-bought (like Silk or Stonyfield brand) or homemade with fresh or frozen fruit and low fat milk or yogurt

**Beverages:**

- **Water**
- **Milk** (1 cup unflavored low fat or fat-free milk or soy milk)
- **Club Soda/Seltzer** Can flavor this with Crystal Lite, Mio or any zero calorie flavoring

**Snack Guidelines:**

- Choose whole grain snacks as much as possible. Look for the word “whole” as one of the first ingredients on the product label.
- Keep fresh fruits and veggies readily available. Wash and prepare snacks such as carrot and celery sticks ahead of time, then keep in the refrigerator for easy snacking later.
- Choose low fat or fat-free dairy products (for children over age 2), like low fat cheese, cottage cheese, sour cream, yogurt, and milk.
- Aim for snacks low in fat, sugar and sodium. The Mayo Clinic recommends choosing snacks that have close to 5% of the daily value for fat, sugar, and sodium, and not more than 20% (this is listed on the nutrition facts label)—except nuts and nut butters, as they contain a healthy type of fat.
- Snacks that include at least two of the major food groups are best (grains, meats & beans, milk, fruits, and vegetables). For example, an apple with peanut butter, cottage cheese with peaches, or carrot sticks with hummus.
- Make it a good habit for kids to brush their teeth or at least rinse their mouths with water after they finish eating snacks. Sugary snack foods that stick in the teeth pose the greatest risk for tooth decay.

08/08 R06/10 1 Mayo Foundation for Medical Education and Research 2004

Developed by the Children in Balance initiative at the Friedman School of Nutrition Science and Policy of Tufts University

**Rewards**

Food should never be used as a reward. Caregivers should identify non-food rewards for the children in their care. Consider rewarding children with time in a special “activity room”, where they can engage in activities such as dancing, jump rope, using a treadmill, or playing video games that require a lot of physical movement.

**Cultural Factors**

One’s cultural background often influences one’s food choices and preferences. People from different cultures may also view body weight differently. For example, some cultures may see excess weight as a sign of social status and health.

Some cultures may also practice “good/bad” and/or “hot/cold” labeling of foods. According to this belief, certain foods cannot be eaten at certain times of the day or during a specific life stage (such as in pregnancy). If this is practiced, meal planning may be slightly more difficult, but plans can still be made.

Cultural influences are not limited to one’s ethnic background. They can include religion, social and economic status, and where one was raised or currently lives (urban, rural, or suburban lifestyle). Adolescents also have their own culture that can strongly influence their food choices, especially away from home.

The social pressure to be thin and the stigma of obesity can lead to unhealthy eating practices and poor body image, particularly among young female adolescents. Some adolescents, especially males, may want to build muscle mass. Their methods should be evaluated by their healthcare provider.

# What Can Case Managers or Nurses Do?

## **Annual Nutrition risk Assessment:**

This should be done at least annually, or when a child moves to a new residence.

See Section 5.

**Suggested Interventions** Interventions planned to address nutrition and physical activity topics should include concrete, practical experiences that address immediate concerns. Although having accurate nutrition knowledge is important, especially for adolescents, it is very important to remember that knowledge alone is not enough to change dietary behavior.

Children are more attentive to information if it is presented in an interactive way; they prefer not to simply listen to a speaker or read a pamphlet or booklet. Education activities should be quick and fun, and should demonstrate that healthy foods are affordable, easy to prepare and can be flavorful.

## **Encourage these eating practices:**

- Drinking water or unflavored nonfat/lowfat milk when thirsty
- Eating at the table with peers or caregivers
- Selecting healthy foods when eating out
- Visiting farmers' markets if they are available in the community
- Selecting fresh fruits and vegetables when they are in season and prices are lower
- Eating at fast food restaurants less frequently and learning to make healthier choices when doing so. Encourage reviewing nutritional content, as chain restaurants are required to have this information.
- Avoiding eating while watching TV or playing computer games

## **Hands-on activities are very effective. Such activities include:**

- Cooking demonstrations and food sampling
- Meal planning, including snacks and party foods
- Grocery store tours
- Planning a menu and shopping for ingredients within a limited dollar amount
- Learning basic food preparation techniques
- Serving healthy foods and providing a physical activity break
- Tracking food intake to encourage healthy eating practices

# Section 5: Nutrition Risk Screening

**This should be done at least annually or when the child experiences a major life change. See Appendix for the Nutrition Risk Screening Tool.**

## **Nutrition Screening**

Nurses can screen their clients for nutrition risk. They can provide education, offer non-judgmental feedback on current habits, and recommend reasonable lifestyle changes. Concrete approaches are best. “Try a whole wheat bagel for breakfast” is clearer than “eat more grains,” or “gradually switch from whole or lowfat milk to 1% or nonfat milk” is more concrete than “eat less fat.” Using information gathered during the screening process, nurses can assist clients to set goals and develop an action plan, or refer them to a Registered Dietitian as needed.

## **Goal Setting**

Goals must be descriptive and concrete. Avoid goals that are too ambitious or long term; make them small with short-term results.

Assist each child in making their own SMART goals:

Specific, Measurable, Achievable, Realistic, Time-bound.

## **Referrals**

Clients who are at nutrition risk (per the tool), or who have a BMI greater than or equal to 85<sup>th</sup> percentile, or who have pre-diabetes, diabetes, dyslipidemia or celiac disease should be referred to a Registered Dietitian for further assessment and intervention.

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# Section 6: Using the Dietary Tables

## Instructions

### Step 1

Use Table A-1a to determine the client's Estimated Calorie Needs.

- You will need the following client information:
  - ☐ Age
  - ☐ Gender
  - ☐ Physical Activity Level (see definitions below)
- Use the age, gender and physical activity level identified in "a" to obtain the client's Estimated Calorie Needs from the table below.

**Table A-1a Estimated Calorie Needs Per Day by Age, Gender, and Physical Activity Level**

Estimated amounts of calories<sup>a</sup> needed to maintain calorie balance for various gender and age groups at three different levels of physical activity. The estimates are rounded to the nearest 200 calories. An individual's calorie needs may be higher or lower than these average estimates.

Age/Activity Level <sup>b</sup>	Male Sedentary	Male Moderately Active	Male Active	Female <sup>c</sup> Sedentary	Female <sup>c</sup> Moderately Active	Female <sup>c</sup> Active
Under 2	Consult	Required				
2	1,000	1,000	1,000	1,000	1,000	1,000
3	1,200	1,400	1,400	1,000	1,200	1,400
4	1,200	1,400	1,600	1,200	1,400	1,400
5	1,200	1,400	1,600	1,200	1,400	1,600
6	1,400	1,600	1,800	1,200	1,400	1,600
7	1,400	1,600	1,800	1,200	1,600	1,800
8	1,400	1,600	2,000	1,400	1,600	1,800
9	1,600	1,800	2,000	1,400	1,600	1,800
10	1,600	1,800	2,200	1,400	1,800	2,000
11	1,800	2,000	2,200	1,600	1,800	2,000
12	1,800	2,200	2,400	1,600	2,000	2,200
13	2,000	2,200	2,600	1,600	2,000	2,200
14	2,000	2,400	2,800	1,800	2,000	2,400
15	2,200	2,600	3,000	1,800	2,000	2,400
16	2,400	2,800	3,200	1,800	2,000	2,400
17	2,400	2,800	3,200	1,800	2,000	2,400
18	2,400	2,800	3,200	1,800	2,000	2,400
19–20	2,600	2,800	3,000	2,000	2,200	2,400

- Estimated Calorie Needs: \_\_\_\_\_ calories

### Physical Activity Levels

- ☐ **Sedentary:** lifestyle that includes only the light physical activity associated with typical day-to-day life.
- ☐ **Moderately active:** lifestyle that includes physical activity equivalent to walking about 1.5 to 3 miles per day at 3 to 4 miles per hour, in addition to the light physical activity associated with typical day-to-day life.
- ☐ **Active:** lifestyle that includes physical activity equivalent to walking more than 3 miles per day at 3 to 4 miles per hour, in addition to the light physical activity associated with typical day-to-day life.

## Step 2

Use Table A-1b to identify the client's food group recommendations.

- Begin with the Estimated Calorie Needs (obtained in Step 1): \_\_\_\_\_ calories
- Use the Estimated Calorie Needs to identify daily recommendations for fruits, vegetables, grains, protein foods, dairy and oils from the table below. Subgroups (e.g., type of vegetable) are listed in weekly amounts. Limits for solid fats and added sugars (SoFAS) are also available.

<b>Table A-1b Dietary Recommendations Based on Calorie Level</b>												
For each food group or subgroup, <sup>a</sup> recommended average daily intake amounts <sup>b</sup> at all calorie levels. Recommended intakes from vegetable and protein foods subgroups are per week. For more information and tools for application, go to ChooseMyPlate.gov.												
<b>Calorie Level of Pattern<sup>c</sup></b>	<b>1,000</b>	<b>1,200</b>	<b>1,400</b>	<b>1,600</b>	<b>1,800</b>	<b>2,000</b>	<b>2,200</b>	<b>2,400</b>	<b>2,600</b>	<b>2,800</b>	<b>3,000</b>	<b>3,200</b>
<b>Fruits</b>	1 c	1 c	1½ c	1½ c	1½ c	2 c	2 c	2 c	2 c	2½ c	2½ c	2½ c
<b>Vegetables<sup>d</sup></b>	1 c	1½ c	1½ c	2 c	2½ c	2½ c	3 c	3 c	3½ c	3½ c	4 c	4 c
Dark-green vegetables	½ c/wk	1 c/wk	1 c/wk	1½ c/wk	1½ c/wk	1½ c/wk	2 c/wk	2 c/wk	2½ c/wk	2½ c/wk	2½ c/wk	2½ c/wk
Red and orange vegetables	2½ c/wk	3 c/wk	3 c/wk	4 c/wk	5½ c/wk	5½ c/wk	6 c/wk	6 c/wk	7 c/wk	7 c/wk	7½ c/wk	7½ c/wk
Beans and peas (legumes)	½ c/wk	½ c/wk	½ c/wk	1 c/wk	1½ c/wk	1½ c/wk	2 c/wk	2 c/wk	2½ c/wk	2½ c/wk	3 c/wk	3 c/wk
Starchy vegetables	2 c/wk	3½ c/wk	3½ c/wk	4 c/wk	5 c/wk	5 c/wk	6 c/wk	6 c/wk	7 c/wk	7 c/wk	8 c/wk	8 c/wk
Other vegetables	1½ c/wk	2½ c/wk	2½ c/wk	3½ c/wk	4 c/wk	4 c/wk	5 c/wk	5 c/wk	5½ c/wk	5½ c/wk	7 c/wk	7 c/wk
<b>Grains<sup>e</sup></b>	3 oz-eq	4 oz-eq	5 oz-eq	5 oz-eq	6 oz-eq	6 oz-eq	7 oz-Eq	8 oz-eq	9 oz-eq	10 oz-eq	10 oz-eq	10 oz-eq
Whole grains	1½ oz-eq	2 oz-eq	2½ oz-eq	3 oz-eq	3 oz-eq	3 oz-eq	3½ oz-eq	4 oz-eq	4½ oz-eq	5 oz-eq	5 oz-eq	5 oz-eq
Enriched grains	1½ oz-eq	2 oz-eq	2½ oz-eq	2 oz-eq	3 oz-eq	3 oz-eq	3½ oz-eq	4 oz-eq	4½ oz-eq	5 oz-eq	5 oz-eq	5 oz-eq
<b>Protein foods<sup>d</sup></b>	2 oz-eq	3 oz-eq	4 oz-eq	5 oz-eq	5 oz-eq	5½ oz-eq	6 oz-Eq	6½ oz-eq	6½ oz-eq	7 oz-eq	7 oz-eq	7 oz-eq
Seafood	3 oz/wk	5 oz/wk	6 oz/wk	8 oz/wk	8 oz/wk	8 oz/wk	9 oz/wk	10 oz/wk	10 oz/wk	11 oz/wk	11 oz/wk	11 oz/wk
Meat, poultry, eggs	10 oz/wk	14 oz/wk	19 oz/wk	24 oz/wk	24 oz/wk	26 oz/wk	29 oz/wk	31 oz/wk	31 oz/wk	34 oz/wk	34 oz/wk	34 oz/wk
Nuts, seeds, soy products	1 oz/wk	2 oz/wk	3 oz/wk	4 oz/wk	4 oz/wk	4 oz/wk	4 oz/wk	5 oz/wk	5 oz/wk	5 oz/wk	5 oz/wk	5 oz/wk
<b>Dairy<sup>f</sup></b>	2 c	2½ c	2½ c	3 c	3 c	3 c	3 c	3 c	3 c	3 c	3 c	3 c
<b>Oils<sup>g</sup></b>	15 g	17 g	17 g	22 g	24 g	27 g	29 g	31 g	34 g	36 g	44 g	51 g
<b>Maximum SoFAS<sup>h</sup> limit, calories (% of calories)</b>	137 (14%)	121 (10%)	121 (9%)	121 (8%)	161 (9%)	258 (13%)	266 (12%)	330 (14%)	362 (14%)	395 (14%)	459 (15%)	596 (19%)
Source: 2010 Dietary Guidelines for Americans <sup>i</sup>												

## Notes for Table A-1b

<sup>a</sup> . All foods are assumed to be in nutrient-dense forms, lean or low-fat and prepared without added fats, sugars, or salt. Solid fats and added sugars may be included up to the daily maximum limit identified in the table. Food items in each group and subgroup are:	
<b>Fruits</b>	All fresh, frozen, canned, and dried fruits and fruit juices: for example, oranges and orange juice, apples and apple juice, bananas, grapes, melons, berries, raisins.
<b>Vegetables</b>	
Dark-Green Vegetables	All fresh, frozen, and canned dark-green leafy vegetables and broccoli, cooked or raw: for example, broccoli; spinach; romaine; collard, turnip, and mustard greens.
Red and Orange Vegetables	All fresh, frozen, and canned red and orange vegetables, cooked or raw: for example, tomatoes, red peppers, carrots, sweet potatoes, winter squash, and pumpkin.
Beans and Peas (legumes)	All cooked beans and peas: for example, kidney beans, lentils, chickpeas, and pinto beans. Does not include green beans or green peas. (See additional comment under protein foods group.)
Starchy vegetables	All fresh, frozen, and canned starchy vegetables: for example, white potatoes, corn, green peas.
Other Vegetables	All fresh, frozen, and canned other vegetables, cooked or raw: for example, iceberg lettuce, green beans, and onions.
<b>Grains</b>	
Whole Grains	All whole-grain products and whole grains used as ingredients: for example, whole-wheat bread, whole-grain cereals and crackers, oatmeal, and brown rice.
Enriched Grains	All enriched refined-grain products and enriched refined grains used as ingredients: for example, white breads, enriched grain cereals and crackers, enriched pasta, white rice.
<b>Protein Foods</b>	All meat, poultry, seafood, eggs, nuts, seeds, and processed soy products. Meat and poultry should be lean or low-fat and nuts should be unsalted. Beans and peas are considered part of this group as well as the vegetable group, but should be counted in one group only.
<b>Dairy</b>	All milks, including lactose-free and lactose-reduced products and fortified soy beverages, yogurts, frozen yo-gurts, dairy desserts, and cheeses. Most choices should be fat-free or low-fat. Cream, sour cream, and cream cheese are not included due to their low calcium content.
<sup>b</sup> . Food group amounts are shown in cup (c) or ounce-equivalents (oz-eq). Oils are shown in grams (g). Quantity equivalents for each food group are: Grains, 1 ounce-equivalent is: 1 one-ounce slice bread; 1 ounce uncooked pasta or rice; ½ cup cooked rice, pasta, or cereal; 1 tortilla (6" diameter); 1 pancake (5" diameter); 1 ounce ready-to-eat cereal (about 1 cup cereal flakes). Vegetables and fruits, 1 cup equivalent is: 1 cup raw or cooked vegetable or fruit; ½ cup dried vegetable or fruit; 1 cup vegetable or fruit juice; 2 cups leafy salad greens. Protein foods, 1 ounce-equivalent is: 1 ounce lean meat, poultry, seafood; 1 egg; 1 Tbsp peanut butter; ½ ounce nuts or seeds. Also, ¼ cup cooked beans or peas may also be counted as 1 ounce-equivalent. Dairy, 1 cup equivalent is: 1 cup milk, fortified soy beverage, or yogurt; 1½ ounces natural cheese (e.g., cheddar); 2 ounces of processed cheese (e.g., American). <sup>c</sup> . See Appendix 6 for estimated calorie needs per day by age, gender, and physical activity level. Food intake patterns at 1,000, 1,200, and 1,400 calories meet the nutritional needs of children ages 2 to 8 years. Patterns from 1,600 to 3,200 calories meet the nutritional needs of children ages 9 years and older and adults. If a child ages 4 to 8 years needs more calories and, therefore, is following a pattern at 1,600 calories or more, the recommended amount from the dairy group can be 2½ cups per day. Children ages 9 years and older and adults should not use the 1,000, 1,200, or 1,400 calorie patterns. <sup>d</sup> . Vegetable and protein foods subgroup amounts are shown in this table as weekly amounts, because it would be difficult for consumers to select foods from all subgroups daily. <sup>e</sup> . Whole-grain subgroup amounts shown in this table are minimums. More whole grains up to all of the grains recommended may be selected, with offsetting decreases in the amounts of enriched refined grains. The amount of dairy foods in the 1,200 and 1,400 calorie patterns have increased to reflect new RDAs for calcium that are higher than previous recommendations for children ages 4 to 8 years. Oils and soft margarines include vegetable, nut, and fish oils and soft vegetable oil table spreads that have no <i>trans</i> fats. <sup>f</sup> . SoFAS are calories from solid fats and added sugars. The limit for SoFAS is the remaining amount of calories in each food pattern after selecting the specified amounts in each food group in nutrient-dense forms (forms that are fat-free or low-fat and with no added sugars). The number of SoFAS is lower in the 1,200, 1,400, and 1,600 calorie patterns than in the 1,000 calorie pattern. The nutrient goals for the 1,200 to 1,600 calorie patterns are higher and require that more calories be used for nutrient-dense foods from the food groups. Source: 2010 Dietary Guidelines for Americans <sup>1</sup>	

# How to Use The Daily Food Guide

## What counts as one serving?

### Breads, Cereals, Rice, and Pasta

1 slice of bread  
1/2 cup of cooked rice or pasta 1/2 cup of cooked cereal  
1 ounce of ready-to-eat cereal

### Vegetables

1/2 cup of chopped raw or cooked vegetables  
1 cup of leafy raw vegetables

### Fruits

1 piece of fruit or melon wedge 3/4 cup of juice  
1/2 cup of canned fruit 1/4 cup of dried fruit

### Milk, Yogurt, and Cheese

1 cup of milk or yogurt  
1-1/2 to 2 ounces of cheese

### Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts

2-1/2 to 3 ounces of cooked lean meat, poultry, or fish  
Count 1/2 cup of cooked beans, or 1 egg, or 2 tablespoons of peanut butter as 1 ounce of lean meat (about 1/3 serving)

### Fats, Oils, and Sweets

Limit intake of these especially for those individuals who BMI is at or above the 85<sup>th</sup> percentile.

For each food group, the amount they eat may be more than one serving. For example, a dinner portion of spaghetti would count as two or three servings of pasta.

**For a more detailed guide, see the “Stop Light Food Guide” in the Appendix.**

# Section 7: Weight Management

All children with a BMI of  $\geq 85^{\text{th}}$  percentile who desire weight loss, or who have co-morbidities, should be referred to a registered dietitian for further assessment and treatment. Children suspected of practicing weight loss methods that may be placing their health at risk should also be referred to a registered dietitian for further assessment and treatment.

Maintaining a living environment that is conducive to a healthy weight is key: Following the “5 2 1 0” principles is a starting point. There are additional staff and resident education programs and interventions available.

The following pages can be used as a conversation starter for children who are obese or at risk for obesity.

# Why Fad Diets Don't Work

Adapted from: FOODPLAY 01995, 221 Pine Street, Northampton, MA 01060 (413) 585-8400

1. When you don't give your body the fuel it requires, it thinks you're starving. Going on very low-calorie diets or skipping meals will cause you to want to binge. This is NOT an eating disorder! It's your body's natural response to starvation.
2. When your body doesn't get the calories it needs, it slows down how fast it burns calories. So rather than helping you to lose weight, dieting actually makes it easier to gain weight.
3. If you don't give your body adequate fuel, it will eventually resort to using its own supplies. However, instead of burning only fat, it will also burn muscle tissue, which is the very thing you want to keep! Burning muscle tissue will make you feel tired, depressed, and without energy. In this state, you are certainly not interested in exercising, which is one of the best ways to keep your body in shape, strong, and healthy.
4. The best way to lose weight is to increase the number of calories your body uses each day (through movement). The more active you are, the more energy you'll use up and the less there will be left over to be stored away as fat.

## Ten Ways to Keep a Healthy Weight

Adapted from: FOOOPLAY C1995, 221 Pine Street, Northampton, MA 01060 (413) 585-8400

1. **Try to eat a variety of foods from all food groups**  
The more variety you have in your diet, the more you will be able to give your body what it needs: fuel for long-lasting energy and nutrients for growth, repair, and top performance.
2. **Try not to skip meals, especially breakfasts**  
Fasting puts a lot of stress on your body and that's what you do when you skip meals, especially breakfast. Without adequate fuel for the morning's activities, most people soon feel tired and irritable — the opposite of energetic and when

you're really hungry, you tend to eat more later, especially of the foods that are not the healthiest. Skipping meals always catches up with you later.

**3. Bring healthy foods along with you.**

Bring along a whole wheat sandwich, raw veggies, fruit, yogurt, or trail mix when you leave the house. Then you won't have to rely on whatever is most convenient — usually junk foods or fast foods that are filled with fat and extra calories.

**4. Make sure to eat a lot of fresh fruits and vegetables... at least 5 a day! Here are some ideas:**

- Grab a fruit or a salad as a snack
- Eat cut-up, fresh vegetables like broccoli "trees" and carrot sticks with a yogurt dip for a great snack
- Microwave or bake a half a sweet potato and add a dab of yogurt
- Add lettuce and tomato to your sandwiches
- Eat your vegetables at school and at dinner time

**5. Try to listen to your body signals.**

Eat when you're hungry; stop eating when you're full. Try not to eat when your body really wants something else. Sleep when you're tired; exercise when you're lethargic (lack energy); breathe deeply when you're stressed; and get involved in fun activities if you're bored. Keep a list close by of all the things you've wanted to do or would do if only you had the time: clean out your room or back-pack, sew your jeans, make a photo album, organize your music, paint, do an art project, learn a sport, and so on. Then check that list when you get bored,.

**6. Be a fat finder: Choose foods by reading labels and choosing the lower fat choice.**

You can eat four apples for the number of calories in a fast food apple pie, or have five cups of unbuttered popcorn for the same calories as in one serving of potato chips (15 chips).

**7. Try not to mix eating with other activities, especially watching**

**TV.** Often you wind up eating more without even being conscious of it. If you have to snack while watching TV, chew on lower-fat stuff like plain popcorn, fruit salad, or fresh veggies with a yogurt dip.

- 8. Don't say never - especially to your favorite foods. Just enjoy them a little at a time.**

The minute you deny yourself something you want to eat, you end up spending more time and energy thinking about wanting it. Finally, when you do go for it, you often end up eating more than you would have if you had just enjoyed a little of it in the first place. Moderation is always the best way to go.

- 9. Have a great time moving your body.**

Being active — whether in sports, dancing in your room, or taking a brisk walk — is the best way to feel good, look good, and give your body what it needs. Exercise is also a great stress reducer, and improves your mood.

- 10. Finally, try to appreciate your body for all that it does for you... and discover your own unique beauty, inside and out!**

# Section 8: Physical Activity

## What is Physical Activity?

**Physical activity** is any body movement that uses more energy than one would use while resting. Physical activity may be unplanned movement, whereas exercise generally refers to planned activity. Physical activity is divided into two intensity levels:

**Moderate-intensity aerobic physical activity** increases heart rate. Brisk walking, biking, taking the stairs, dancing, and raking leaves are examples. A person engaging in moderate activity can continue a conversation.

**Vigorous-intensity aerobic physical activity** causes one to sweat and breathe rapidly. Running, jogging, playing soccer, fast dancing such as salsa dancing and fast biking are examples. A person engaging in vigorous activity would need to pause for breathe before conducting a conversation.

**Physical fitness** is a measure of the ability to perform activities that require endurance, strength and/or flexibility.

Health-related fitness includes cardiovascular fitness, muscular strength and endurance, body composition and flexibility.

Regular physical activity with healthy eating habits is the most efficient and healthful way to achieve physical fitness.

## Why is Physical Activity Important?

**Benefits of Physical Activity** In adolescents, physical activity has been linked with the following:

- ☐ Improved academic performance
- ☐ Reduced teen pregnancy
- ☐ Improved self-esteem
- ☐ Improved bone density
- ☐ Less illegal drug use
- ☐ Physical activity later in life
- ☐ Improved body image or appearance
- ☐ Being part of a team
- ☐ Staying healthy
- ☐ Fun activities
- ☐ Mental health benefits
- ☐ Being healthy
- ☐ Being able to choose the physical activity
- ☐ Having a chance to play and be active
- ☐ Having social support and encouragement

### Risks of Physical Inactivity and Poor Diets

- ☐ Obesity
- ☐ Type 2 diabetes
- ☐ Hypertension (high blood pressure)
- ☐ Heart disease
- ☐ Cancer
- ☐ Weak bones

Adolescents may prefer certain terms over others. In one focus group, teens said they are more familiar with the word “exercise” than “physical activity.” However, in another focus group, teen girls said that the term “physical activity” sounds more appealing and that “exercise” sounds like a chore. If “physical activity” is used, the term should be explained to teens to ensure they understand its meaning.

## Barriers and Opportunities

The following are seen by teens as barriers that limit physical activity:

- ☐ Lack of time
- ☐ Concerns about appearance during or after activity, such as fears of ruining hair and makeup and sweating
- ☐ Self-consciousness
- ☐ Girls may have a fear of looking masculine
- ☐ More accepting of larger body size
- ☐ Negative experiences in physical education classes
- ☐ Lack of opportunity
- ☐ “Girls should not exercise during their period”
- ☐ Lack of role models who look like them
- ☐ “You need to be heavy to be healthy”
- ☐ Injury and discomfort
- ☐ Safety

## How to “Roll with Resistance”

### “I do not have enough time.”

Focusing on short opportunities to add physical activity into existing routines may be the most successful approach. Making it a priority and part of their daily routine is essential for successful implementation.

### Beauty/Appearance

Hair and makeup concerns may be a primary reason why an ethnically diverse group of adolescent girls may not want to exert themselves during physical education classes. If it is a barrier, provide examples of alternate activities that do not damage hair and makeup, such as dance, yoga, fast walking and lifting weights. Sweating can be minimized by wearing light clothing and exercising at cooler times, such as in the morning or evening.

A focus group study found weight and fat loss as the teen girls’ strongest motivation to being physically active. Emphasizing the benefit of improved appearance through exercise **without focusing on weight** may be effective in this population.

### Hair Care & Exercise

Teens of any race/ethnicity but especially those who are African-American may cite hair concerns as a barrier to physical activity.

Staff can assure teens that hair care and regular exercise are not mutually exclusive by providing the following tips:

- ☐ Ask the stylist about hairstyle options that are workout-friendly such as ponytails or “wash and go styles.”
- ☐ To prevent sweat from building up in hair, wash hair with a pH-balanced shampoo weekly and condition hair.
- ☐ Comb hair with a wide-tooth comb to keep it tangle-free in between workouts.

- ☐ Tie hair back with a satin scarf to absorb moisture and keep hair pressed down during workouts.
- ☐ If hair is relaxed or flat-ironed, smooth hair into a high ponytail to keep hair off the neck and away from sweat and leave it that way until hair is dry to reduce frizz.
- ☐ If hair is natural, simple styles such as two-strand twists are workout-friendly.
- ☐ To avoid dry, crunchy hair, mix some water and leave-in conditioner and spray it on hair post-workout.
- ☐ Use a support system to hold each other accountable to working out and deter them from using hair as an excuse.

Every teen is different and has different interests. Staff can be more effective if they actively listen to teens to find out what activities they enjoy. Providing multiple choices, encouragement and sharing personal experiences may be successful strategies to promote physical activity.

## **Physical Activity Recommendations**

All children should be physically active daily, or nearly every day.

### **Children and Adolescents Ages 6-17 Years**

- ☐ Children and adolescents should do 1 hour (60 minutes) or more of physical activity every day. Most of the 1 hour or more a day physical activity should be either moderate- or vigorous-intensity aerobic physical activity.
- ☐ As part of their daily physical activity, children and adolescents should do vigorous-intensity activity on at least 3 days per week. They should do muscle- and bone-strengthening activity on at least 3 days per week.

### **Adolescents Ages 18 Years or Older**

Physical activity recommendations are the same as those for adults:

- ☐ At least 2 hours and 30 minutes of moderate-intensity per week or 1 hour and 15 minutes of vigorous-intensity physical activity every week.
- ☐ Muscle-strengthening activities should be done at least 2 times per week.

It is important to encourage young people to participate in physical activities that are appropriate for their age, that are enjoyable and that offer variety.

Physical activity can be performed continuously or intermittently throughout the day. The U.S. Surgeon General states that physical activity need not be strenuous to be beneficial. For example, brisk walking for 10 minutes at a time can count towards meeting the recommendation.

Increasing the frequency, time, or intensity of physical activity adds even more health benefits, up to a point. It should begin gradually. For example, one might try fast walking for 10 minutes each day for the first week and then progress to 15 minutes the following week and so forth.

### **Avoiding Pain and Injury**

Cooling down—continuing activity at a lower intensity—is important after the activity.

### **Injury Prevention Tips**

Teens should follow preventive measures to avoid injury. These depend on the activity but can include the following:

- ☐ Proper nutrition

- ☐ Wearing a helmet while bicycling
- ☐ Wearing a helmet and pads when skiing, skate boarding, etc.
- ☐ Wearing a mouth guard for contact sports
- ☐ Wearing shin guards for soccer

## Goal Setting and Creating an Action Plan:

The child must set their own goals for maximum ownership and commitment. Use the SMART goal setting technique, where all goals are:

Specific, Measurable, Achievable, Realistic and Time-bound.

See Section 5: Nutrition Risk Screening Tool for more details.

## Follow-up

Review the action plan with the child to determine if he/she achieved their goal(s) for behavior change.

**If the child did not make any changes, discuss what prevented them from doing so.** Review the benefits of physical activity and see which (if any) are important to them. Validate their feelings. Work with them to identify strategies for removing any barriers.

**If the child made changes but still falls short of the recommended physical activity,** praise them for the changes that . Work with them to revise their action plan (change or add goals).

**If the child has made changes and achieved the recommended physical activity,** praise for the changes that they made. Help them consider a new action plan for further gains in health and fitness

## Addressing Physical Activity Concerns:

Concern	Suggested Response/Tips
<b>“I am self-conscious about my looks when I exercise”</b>	<p>Try not to let this feeling stop you from being active. A lot of girls your age feel this way. Getting active will help you look and feel better about yourself.</p> <p>Think of places to exercise where you do not have to worry about how you look, such as in your room, basement or garage.</p>
<b>“I am not motivated”</b>	<p>Think about the great things that exercise can do for you. Write them down and carry the list with you.</p> <p>Do activities that you enjoy. Dancing, walking with a friend or jumping while watching a movie all count! Just have fun!</p> <p>Change your exercise activities before you get bored.</p> <p>Try doing some abdominal crunches or sit-ups to get some good results quickly.</p> <p>This may help you stay motivated and keep going.</p>
<b>“I do not have anyone to exercise with me”</b>	<p>Ask a friend, neighbor, family member, or guardian to do some physical activity with you.</p> <p>Think of things that you might like to do alone, such as jumping rope, dancing, jogging and biking.</p> <p>Borrow an exercise video from the library or from a friend—some high-quality videos are also available for free on the <a href="#">CDC website</a>.</p> <p>Go on a walk with a child, or take a pet for a walk. You can make some money walking someone else’s dog and get some physical activity at the same time.</p> <p>Join an organization that offers physical activity opportunities and other people with whom to exercise. Some ideas:</p> <ul style="list-style-type: none"> <li>Local Park and Recreation Departments</li> <li>Local Public Health Department</li> <li>After school programs</li> <li>YMCA</li> <li>Churches or community centers</li> </ul>
<b>“I am too busy”</b>	<p>Your daily physical activity can be broken up into smaller times during the day for a total of 60 minutes. If you are a beginner, start with 5 to 10 minutes of activity each day for 1 week and then gradually increase the time each week.</p> <p>Keep a daily physical activity log (on paper or electronically) to stay on track.</p> <p>Try substituting exercise for TV a few times a week. If you are unable to do this, try doing some physical activity while you watch TV. For example, you can jog in place, do sit ups or crunches or ride an exercise bike or walker during your favorite shows.</p> <p>Do one chore a day to increase your physical activity and accomplish some tasks at the same time. For example, rake leaves, wash windows, or wash your car.</p>
<b>“I don’t have enough money to join a gym”</b>	<p>Think about ways that you can exercise that are free. Here are some examples:</p> <p>If you feel safe in the location, try taking a walk outdoors! A walk outdoors can lower your stress and lift your spirits too!</p> <p>Use milk or water bottles or canned goods as dumbbells to strengthen your muscles.</p> <p>Walk someone’s dog and earn some extra money.</p> <p>Find quality exercises that you can do at home from <a href="#">online videos</a>, <a href="#">websites</a>. You can also borrow a video from your library for free (just be sure to return it on time to avoid late fees!)</p>
<b>“I don’t feel like exercising when I have a bad or tiring day at school”</b>	<p>Exercising can help improve your mood and increase your energy. Say positive statements to yourself to help you stay motivated. Tell yourself you will feel good when you finish.</p> <p>Turn on some wild music (that you like of course) to wake you up and put you in a better mood. Try making up a new dance.</p>
	Tell yourself that you are going to start moving on the count of 10. And just do it.

<b>“The weather is too bad”</b>	<p>Create your own fun-filled, unique exercise program designed specifically for a rainy or other type of “bad” weather day.</p> <p>Think about using exercise playlists or dancing to your favorite music.</p> <p>Do floor exercises (e.g., push-ups, sit-ups, stretching) or jog in place while watching your favorite TV show.</p> <p>Try walking in the mall on a rainy day, or put on a raincoat and go outdoors anyway.</p>
<b>“Physical activity is hard work”</b>	<p>Think of the rewards you will get from physical activity instead of seeing it as an unwanted chore or burden. Think of all of the benefits you will reap from exercising, like staying healthy and keeping a healthy weight!</p> <p>Do something that is easy and fun. You do not have to lift weights, run, or go to the gym. You can walk in the mall, dance, or walk with your pet – just move instead of sitting.</p> <p>Make physical activity an important part of your life. Eventually doing physical activity should become easier for you when you do it on a regular basis.</p>
<b>“My schoolwork gets in the way of my physical activity”</b>	<p>Do a good job on your schoolwork but try to be efficient so that no time is wasted. You need to have time to do the physical activities you enjoy.</p> <p>Try combining some physical activity with your homework, like floor exercises with reading or memorizing information. Take physical activity breaks in between schoolwork!</p> <p>Ask a friend to quiz you while you exercise.</p>

This table has been adapted with permission from author Lorraine Robbins.<sup>27</sup>

## Web Links Referenced/Additional Resources

Title	Resource Type	URL
<b>CDC information on BMI for children and Teens</b>	Webpage	<a href="http://www.cdc.gov/healthyweight/assessing/bmi/childrens_BMI/about_childrens_BMI.html">http://www.cdc.gov/healthyweight/assessing/bmi/childrens_BMI/about_childrens_BMI.html</a>
<b>Booklet on hair care and exercise: Hair Care Tips for Sisters on the Move</b>	Document (PDF)	<a href="http://www.hsph.harvard.edu/healthliteracy/files/sisters.pdf">http://www.hsph.harvard.edu/healthliteracy/files/sisters.pdf</a>
<b>2008 Physical Activity Guidelines for Americans</b>	Webpage	<a href="http://www.health.gov/paguidelines/">http://www.health.gov/paguidelines/</a>
<b>Stretching information from girlshealth.gov</b>	Webpage	<a href="http://kidshealth.org/PageManager.jsp?dn=girlshealth&amp;lic=175&amp;article_set=52711&amp;ps=204&amp;cat_id=20591">http://kidshealth.org/PageManager.jsp?dn=girlshealth&amp;lic=175&amp;article_set=52711&amp;ps=204&amp;cat_id=20591</a>
<b>Sample stretches from girlshealth.gov</b>	Webpage	<a href="http://www.girlshealth.gov/fitness/exercise/stretching.cfm">www.girlshealth.gov/fitness/exercise/stretching.cfm</a>
<b>WIC physical activity resources for mothers and Children</b>	Webpage	<a href="http://www.cdph.ca.gov/programs/wicworks/Pages/WICEducationMaterialsActiveLiving.aspx">http://www.cdph.ca.gov/programs/wicworks/Pages/WICEducationMaterialsActiveLiving.aspx</a>
<b>How Active Am I?/ My Action Plan for Exercise handout</b>	Document (PDF)	<a href="http://www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-HowActiveAmIActionPlan.pdf">http://www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-HowActiveAmIActionPlan.pdf</a>
<b>Benefits of Exercise handout</b>	Document (PDF)	<a href="http://www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-BenefitsofExercise.pdf">http://www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-BenefitsofExercise.pdf</a>
<b>Get Active! handout</b>	Document (PDF)	<a href="http://www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-GetActive.pdf">http://www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-GetActive.pdf</a>
<b>Fitness Tips for Teens handout</b>	Document (PDF)	<a href="http://www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-FitnessTips.pdf">http://www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-FitnessTips.pdf</a>
<b>Body Basics Handout</b>	Document (PDF)	<a href="http://www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-BodyBasics.pdf">http://www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-BodyBasics.pdf</a>
<b>How to Make a Home Gym handout</b>	Document (PDF)	<a href="http://www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-HomeGym.pdf">http://www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-HomeGym.pdf</a>
<b>SuperTracker webpage for personalized nutrition and physical activity information</b>	Webpage – interactive tool	<a href="https://www.supertracker.usda.gov/CreateProfile.aspx">https://www.supertracker.usda.gov/CreateProfile.aspx</a>
<b>CDC exercise videos</b>	Webpage	<a href="http://www.cdc.gov/physicalactivity/everyone/videos/index.html">www.cdc.gov/physicalactivity/everyone/videos/index.html</a>
<b>Best Bones Forever physical activity page</b>	Webpage	<a href="http://www.bestbonesforever.gov/physical_activity/index.cfm">http://www.bestbonesforever.gov/physical_activity/index.cfm</a>
<b>Best Bones Forever video/dance routine featuring teen girls and Michelle Obama</b>	Video (~5 min.)	<a href="http://www.youtube.com/watch?v=TBYGjAzuu2E&amp;lr=1&amp;uid=QGLiqGUZeeOjhcLE2-2NDA">www.youtube.com/watch?v=TBYGjAzuu2E&amp;lr=1&amp;uid=QGLiqGUZeeOjhcLE2-2NDA</a>

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# Section 9: Vegetarian Youth

## What Is a Vegetarian?

A vegetarian can be someone who only eliminates red meat from their diet, or it can be someone who avoids any foods of animal origin. More than 50% of those who consider themselves vegetarian do not eat meat or fish, but will consume dairy and egg products. Vegetarian eating plans can be very health-promoting and can provide all of the calories, protein, vitamins, and minerals required for growth. Vegetarian diets also have the potential to be deficient in many essential nutrients if foods containing these nutrients are eliminated without compensation with other foods.

Adequate caloric intake and a variety of foods are critical components to planning a healthy vegetarian diet. There are many ways to get a varied and balanced diet. A sound vegetarian eating plan includes fruits, vegetables, leafy greens, whole grains, legumes, nuts, seeds, and for some, dairy products, dairy product alternatives, and eggs. Vitamin and mineral supplements are recommended. Because the term vegetarian is so often used loosely, the nutritional and medical consequences of the diet depend on what foods are actually eaten.

Teenagers are the fastest growing segment of our population trying vegetarian dietary patterns. Although there are many different types of vegetarians, it is important not to assume all vegetarian eating patterns support health.

Vegetarians — whatever the details of their diet — need to be aware of the foods they eliminate and the specific essential nutrients that may subsequently be missing from their diet. Vegetarian diets do not support health when the proper foods are not replaced for the foods omitted, and when fruits, vegetables, whole grains, and legumes (dried beans, peas, and lentils) are not consumed in adequate quantities.

It is possible to eat french fries, potato chips, and candy and technically be a “vegetarian,” but this type of diet does not support optimal health. With planning and education, any type of vegetarian diet can include all essential nutrients.

## The Many Faces of Vegetarians

There are many ways to live a vegetarian lifestyle. Some classic types of vegetarians are: (adapted from [http:// www.oldwayspt.org](http://www.oldwayspt.org)):

*Lacto-Ovo-Vegetarian*: A diet containing eggs and dairy products, but no meat, poultry, and fish.

*Lacto-Vegetarian*: A diet containing dairy products, but no meat, poultry, fish and eggs.

*Pollo-Vegetarian*: A diet containing eggs and dairy products, as well as poultry. Meat, fish, and seafood are not eaten.

*Pesca-Vegetarian*: A lacto-ovo vegetarian diet that adds fish and seafood.

*Semi-Vegetarian:* The least restrictive vegetarian diet, it is lacto-ovo vegetarian diet with the occasional use of meat, poultry, fish, and seafood.

*Strict Vegetarian or Vegan:* The most restrictive vegetarian diet, it contains no animal products: meat, fish, seafood, poultry, milk and other dairy products, or eggs. Vegans, who make up about 10% of the total vegetarian population, also avoid foods with animal products as ingredients. For example: beans made with lard (pork fat), baked goods made with butter or eggs, or margarine made with milk solids

## Why Teens Choose to become Vegetarians

There are many reasons why a teen might choose to eat a vegetarian diet. Some adolescents may be developing an interest in animal rights, while others have religious beliefs that support a vegetarian diet.

One impetus that health care professionals should be aware of is the use of vegetarian eating patterns as a method to restrict food consumption. There is no evidence to show that vegetarianism leads to disordered eating but it is possible that teens with eating disorders or disordered eating may be using vegetarianism to disguise their eating patterns.

## What Are the Nutritional Concerns for Vegetarian Adolescents?

### **Vegan Diets**

Adolescents who attempt to practice a vegan - strictly plant — based - diet are at greater risk for deficiencies of nutrients such as Vitamin B12, Vitamin D, calcium, iron, zinc, and some essential fatty acids. Low zinc intake is a concern because of its role in growth. *Referral to a registered dietitian is recommended.*

### **Energy**

Vegetarian diets are usually lower in calories than omnivorous diets — those that include animal products — because they provide more fiber and less fat. Adolescents have greater needs for energy (calories) than adults, therefore calorie and nutrient-dense foods are an important component to any vegetarian diet.

Good sources of energy include dried beans and peas, nuts and nut butters, dried fruits, and whole grains and seeds (these also provide many vitamins and minerals). Added dairy products (for those who use them) are also good sources.

### **Protein**

Concerns about protein deficiencies in the vegetarian diet arise when no meat, poultry, fish, seafood, eggs, or dairy products are consumed. With careful planning, the protein needs of vegetarian teens may be met with consumption of a variety of plant foods. Plant foods such as legumes, nuts, and seeds are rich in protein.

Nonmeat sources of protein include eggs, milk, cheese, yogurt, and soy products. Vegans must eat

more legumes or nuts, combined with whole grains and soy products, as substitutes for the protein other vegetarians get from eggs, milk, and other dairy products.

### **Calcium and Vitamin D**

It takes more planning for vegans to get adequate calcium from their diet. Vegetarians who avoid milk and other dairy products should supplement their diet with a calcium-fortified milk alternate that is low-fat, and fortified with Vitamin D.

Some nondairy sources of calcium include tofu processed with calcium, calcium-fortified soy beverages, broccoli, sunflower seeds, nuts, legumes, calcium fortified orange juice, and fortified breakfast cereal.

Vitamin D is not a problem for vegetarians who drink milk and for those who get sunshine exposure on a regular basis (sunbathing is not necessary; about 15 minutes of minimal hand, arm and face exposure without clothing or sunscreen is adequate). What should vegans do when the sun is not visible? They should eat foods are fortified with Vitamin D such as breakfast cereals and soy beverages, or take a supplement that recommended by a healthcare professional.

### **Iron**

Most studies show that vegetarian teens have higher intakes of iron than omnivorous teens, but regardless of dietary choice, iron intake is a concern for all teens. Vegetarian adolescents should be encouraged to include iron-rich plant foods at every meal. Plant foods contain iron, but it is not absorbed as well as the iron from animal sources.

There are ways to improve the absorption of the iron in plant foods (such as legumes, whole-wheat breads, tofu, spinach). One way is to include Vitamin C-foods (citrus fruits or juices, broccoli, tomatoes, for example) at every meal.

### **Vitamins B12**

A Vitamin B12 deficiency may occur with vegetarian diets that omit all animal products. Deficiency of this vitamin can cause neurological problems that may be irreversible, especially in infants or young children. Vegetarian adolescents who eat no animal products must include food products fortified with Vitamin B 12 or take a vitamin supplement that includes it.

Vegans should look for cereals, soymilk products, or vegetarian burger patties that are fortified with B12. Vegan products such as seaweed, algae, spirulina, and fermented plant foods such as tempeh and miso are not good sources of B12 because it is in a form that cannot be used by the human body.

### **Zinc**

More than two-thirds of the zinc the American diet comes from animal sources. Vegetarians who include milk, cheese, yogurt, or eggs in their diet get enough zinc.

Vegans can get zinc by eating legumes, tofu, seeds, nuts, and the germ and bran of whole grains. Be aware that these plant sources of zinc also contain substances (phytates and fiber) that make it difficult for the body to absorb the zinc contained in them.

A multi-vitamin/mineral supplement may be a good way for vegans to get adequate zinc.

## Interventions/Referral

Children who do not substitute particular foods with the foods they eliminate are at risk for nutrient deficiencies. If you suspect that the child's diet is inadequate, refer them to a registered dietitian for further evaluation.

Refer children who follow a **vegan** diet to a registered dietitian to assess the adequacy their diet

# Vegetarian Food Guide

Food Group	Servings	Serving Size	Nutrition-Tip
Legumes, eggs, egg substitute, soy-based meat substitutes, and nuts/seeds	6-9	<ul style="list-style-type: none"> <li>1/2 cup cooked dry beans, peas, or lentils</li> <li>3 ounces soy-based meat substitute</li> <li>1/4 cup tofu or tempeh</li> <li>1 egg, 2 egg whites, or 1/4 cup egg substitute</li> </ul>	Select tofu set with calcium sulfate for a calcium bonus: a 1/2-cup serving can have as much as calcium as 1 cup of milk
Milk or milk Substitute	4	<ul style="list-style-type: none"> <li>1 cup milk or yogurt</li> <li>1 cup calcium- and Vitamin D-fortified soy milk or soy yogurt</li> <li>1 1/2 ounces cheese or soy cheese</li> </ul>	Protect your bones: Calcium-fortified juices, cereals, tofu with calcium sulfate, and calcium-rich plant foods like collard greens can also help meet calcium needs.
Grains	8-11	<ul style="list-style-type: none"> <li>1 slice bread</li> <li>1/2 cup pasta or rice</li> <li>1 ounce (-1/2 cup) ready-to-eat cereal</li> </ul>	Check the label: Look for 100% whole breads and fortified cereals. Whole grains provide fiber, vitamins, minerals, and protein.
Vegetables	4-5	<ul style="list-style-type: none"> <li>3/4 cup juice</li> <li>1 cup raw leafy greens</li> <li>1/2 cup chopped cooked vegetables</li> </ul>	Eat plenty of nutrient-rich, dark green, deep red, and yellow-orange vegetables. Vegetables provide fiber, vitamins, and minerals
Fruits	3-4	<ul style="list-style-type: none"> <li>3/4 cup juice</li> <li>1/4 cup dried fruit</li> <li>1/2 cup fresh or canned</li> <li>medium-size piece</li> </ul>	Vitamin C-rich foods like strawberries and orange juice boosts iron absorption from legumes and iron-fortified cereals.
Fats	4-5	<ul style="list-style-type: none"> <li>1 teaspoon olive oil, vegetable oil, margarine, or butter</li> <li>1 tablespoon of salad dressing or mayonnaise</li> </ul>	Margarine or butter? It is okay to eat either if you do so in moderation. If you like margarine, try to purchase the brands that contain less trans-fatty acids (look on the label).

# TIPS FOR VEGETARIANS

(Adopted from ADAs Complete Food and Nutrition Guide)

## **Be sure you eat enough calories!**

- ❖ Many vegetarian meals are low in fat and high in fiber, so you may fill up before you get enough calories to support growth and proper brain function,
- ❖ Include foods like nuts, peanut butter, and cheese to be sure you are getting what your body needs to be its best.

## **Make grain dishes the centerpiece of your menu!**

- ❖ Add interest to vegetarian meals with a greater variety of breads including focaccia, bagels, tortillas, pita bread, chapatis, and naan.
- ❖ Choose fortified breakfast cereals for added nutrients such as iron, folate, Vitamin B12, and zinc.

## **Eat those veggies!**

- ❖ Aim for at least four servings of vegetables each day.
- ❖ Plan meals with several different vegetables.
- ❖ Choose vegetables that are good sources of calcium: dark green leafy veggies (kale, mustard, collard, or turnip greens), bok choy, and broccoli. These foods also supply iron.
- ❖ Choose vegetables that are high in Vitamin C: broccoli, tomatoes, and green pepper.
- ❖ Include two to three servings of legumes and other meat alternatives every day.

## **Add fruit to your life!**

- ❖ Include at least three servings of fruit each day.
- ❖ Fruits high in Vitamin C include citrus fruits, melons, and berries.
- ❖ To get enough fruit in your diet, serve it for dessert and snacks.
- ❖ Look for calcium-fortified juices.

## **Include more soy products in your meal planning!**

- ❖ Soy milk can be a good substitute for cow's milk, but be sure to check the Nutrition Facts on the food label - some brands are fortified with calcium, but not all.
- ❖ Experiment with soybean products such as tofu, tempeh, textured soy protein, and soy milk in your meal planning.
- ❖ For lacto-vegetarians (if you eat dairy but no other animal products), be sure to include two to four servings of milk, yogurt, or cheese every day.

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